ABSTRACT

A flat panel display device and a driving method thereof wherein an input data is modulated to realize accurate color with a single gamma voltage. The flat panel display device includes a data converter having a look-up table and inputted with Red, Green and Blue N-bit digital data signals, the data converter converting the Red, Green and Blue N-bit digital data signals into Red, Green and Blue M-bit digital data signals, respectively, referring to the look-up table, wherein each of N and M is an integer, M is greater than N, and each of the Red, Green and Blue M-bit digital data signals corresponds to a gray scale number; a gamma voltage generator generating a plurality of gamma voltages corresponding to the gray scale numbers; and a data driving circuit inputted with the gamma voltages, the data driving circuit converting the Red, Green and Blue M-bit digital data signals into Red, Green and Blue analog video signals, respectively, and applying the Red, Green and Blue analog video signals to respective Red, Green and Blue pixels.